THE RICHEBÄCHER LETTER

Monthly Analysis of Currencies and Credit Markets

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MONEY, AND THE HIGH PRICE OF ITS MISCONCEPTION

"Technological advances have dramatically transformed the provision of financial services in our economy. Notably, increasingly sophisticated information technologies enable lenders to collect and process data necessary to evaluate and price risk much more efficiently than in the past… Market competition among financial providers for the business of informed consumers is, in my judgment, the best mechanism for promoting the provision of better, lower-cost financial products."

— Federal Reserve Bank Chairman Ben Bernanke
testimony before Congress
May 23, 2006

"Although the severity of the financial stresses became apparent only in August [2007], several longer-term developments served as prologue for the recent turmoil… The first of these was the U.S. housing boom, which began in the mid-1990s… A second critical development was an even broader credit boom, in which lenders and investors aggressively sought out new opportunities to take credit risk even as market risk premiums contracted… The explosive growth of subprime mortgage lending in recent years was yet another facet of the broader credit boom. Expanding access to homeownership is an important social goal… But clearly, much of the subprime lending that took place during the latter stages of the credit boom in 2005 and 2006 was done very poorly."

— Federal Reserve Bank Chairman Ben Bernanke
International Monetary Conference
June 3, 2008

Over the course of the last two years, Fed Chairman Ben Bernanke appears to have changed his mind about the efficiency of risk evaluation and pricing under the auspices of the new financial architecture. After praising "sophisticated information technologies" for shining the cold, clear light of rationality (what is it with these MIT grads and their fascination with tech, by the way?) through the fog of fundamental uncertainty, Chairman Bernanke now sees things a little differently. Instead of technologically enhanced financial rationality, he now finds a decade-long housing boom and subsequent credit boom (a double bubble?) in which lending in the latter stages "was done very poorly."

In the course of a little more than two months, professional investors have manically swung from fears of a full-blown financial meltdown — signified by the anticipation of widespread illiquidity and insolvency challenges for many large financial institutions — to fears of excessively low real interest rates, excess liquidity and escalating inflation pressures.

On Intrade, a prediction market in which contracts are traded on various questions of the day, the estimated probability of recession has dropped from above 70% in mid-April, to just north of 30% more recently. The speed with which prior views are shed in modern financial markets, and the velocity with which new views — often 180 degrees in the opposite direction — are embraced is one of the endearing side effects of the age of information overload. Indeed, it would be no great surprise to discover that new hires at hedge funds, investment management firms and investment banks are issued a mandatory neck brace.

No doubt this recent incident of investor whiplash has been prompted by the apparent success of the Bear Stearns buyout in reviving investor risk appetites and the consequent shift in consensus thinking to a "look through the valley" position. After all, if the Fed is willing to play private equity market maker for failed investment banks using quasi-public capital, then it is reasonable for professional investors to conclude that they are back to the "heads, they win; tails everybody else loses" world that curtails their downside risk. Moral hazard, now writ larger than ever, rides again.

However, the depreciation of the dollar during this interval, as well as the surge in energy and food prices and the acceleration of broad money supply measures, has contributed to this recent episode of investor whiplash. Completing and confirming this shift has been the Fed's own strange pirouette in recent weeks back to the rhetoric of inflation vigilance and strong dollar advocacy — a rhetoric it abandoned nearly a year ago.

In this issue of *The Richebächer Letter*, I intend to use Dr. Richebächer's emphasis on the importance of money and credit as a crucial lens for investigating whether this recent shift in investor and central banker perceptions is warranted, and the possible policy errors and financial market mispricings that may arise if these recent shifts are off the mark.

MONEY MATTERS

Close readers of the *Letter* will notice the subtitle appearing below the masthead: "Monthly Analysis of Currencies and Credit Markets." Currencies and credit markets are, indisputably, related to money. After all, currency is a form of money, and the exchange rate between currencies is a monetary price — namely, the price of one unit of a nation's money in exchange for one unit of another nation's money.

Credit, similarly, is little more than a forward contract for money. A creditor releases control over a sum of money in the present in exchange for accepting delivery of a larger sum of money in the future. Credit can be tied to either the creation of money (for example, when a bank creates a new loan and issues a checkable deposit to the borrower), or to a more rapid circulation of the existing stock of money. Dr. Richebächer's macrofinancial analysis, in other words, was deeply connected to his understanding of the monetary economy in which we live. Money and monetary issues were far from trivial in deriving his powerful and unique insights. As with John Maynard Keynes, Irving Fisher and the Austrian School in general, monetary values, especially asset prices and nominal interest rates, were treated by the good doctor as crucial influences on the trajectory and character of economic activity.

This central orientation of Dr. Richebächer's analysis stands in great contrast to the current orthodoxy of most central bankers, especially Anglo-American central bankers, and most mainstream economists. In their world view, money has largely gone missing. In this rarefied but influential world of central bankers and mainstream economists,

THE RICHEBÄCHER LETTER

In Memory of Dr. Kurt Richebächer

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money and monetary values are not terribly important to the long-run trajectory of the economy. Rather, real or tangible elements, such as the size of the labor force, the degree of technological progress; the size of the tangible capital stock; the resource endowment; the preferences of households to consume today rather than tomorrow, or to enjoy leisure over labor effort, are put forth as the key drivers of long-run economic growth.

Fortunately, professional investors have not entirely followed central bankers and mainstream economists into this missing monetary morass. Still, the understanding investors have of monetary economics remains, for the most part, skewed and stilted. Assessments of liquidity, which is a more amorphous category than money, and the next change in the fed funds rate tend to mark the limit of monetary considerations among professional investors.

Both the near absence of money from central bank and mainstream economic analysis and the oversimplified integration of money and credit into investor views of how the world works are bound to lead to errors in both monetary policymaking and financial asset pricing. Identifying and understanding these errors, especially as they pertain to the current macrofinancial situation, may just offer us an essential strategic edge. A deeper examination of the role of money, especially the money values of financial assets, the determination of money profits and money flows of income required to service debt payments will unfold in future issues of *The Richebächer Letter*.

THE ROLE OF THE CONVENTIONAL REAL INTEREST RATE

Contemporary central bankers view the policy rate as their key policy lever rather than a measure of the money supply. The policy rate is usually an overnight interest rate on reserves that banks and other depository institutions are required to hold on deposit with the central bank. Central banks tend to be the monopoly supplier of reserves. And as microeconomic theory requires, and as history has repeatedly shown, any monopolist who sets the price for a good or service loses control of the quantity sold. Central banks, by setting the policy rate, lose control over the supply of reserves, which are a crucial building block or base in most measures of money supply.

To maintain any given target policy rate, modern central banks have no choice but to accommodate changes in the demand for reserves by commercial banks and depository institutions. When banks are expanding their balances sheets (say by making more loans), their demand for reserves will also be rising, and this increased demand pressure tends to push the policy rate above the target level. In the case of the Federal Reserve, the fed funds rate will start to drift above the target level, and the Fed will have to automatically inject reserves into the system to offset the increased demand for reserves. Money supply will consequently increase when the Fed stabilizes the fed funds rate in the face of rising demand for reserves.

By choosing to target a specific level for the policy rate, a central bank foregoes the ability to control the money supply. The price of borrowing overnight reserves can be set, or the total supply of reserves can be targeted, but the levels of both the fed funds rate and the money supply cannot be set simultaneously. In contemporary monetary policy regimes, the base of the money supply (namely reserves, which along with currency from what is known as the monetary base) is then little more than an artifact of central banks setting the price on a short-term interest rate. Money supply becomes a residual.

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Central banks, however, are aware that nominal interest rate targets are not sufficient for influencing real economy outcomes. As the Great Depression

demonstrated, a low nominal interest rate can be deceptive in the face of widespread product price deflation. Economic growth can continue to contract in the face of low nominal interest rates if businesses are unable to achieve their required price objectives, and profitability suffers. In contemporary theory, real interest rates — that is, nominal or money interest rates minus the rate of inflation on consumer goods and services — play the central role in influencing spending, saving, lending and borrowing decisions.

Savers and lenders, for example, are expected to be interested in preserving the purchasing power of the principal they lend, as well as the interest payments they receive on that principal. In a 3% inflation environment, a creditor accepting a nominal interest rate of less than 3% insures that the buying power (in terms of the quantity of goods and services that can be claimed), commanded by the principal and the interest payments they receive, will diminish over the life of the loan or bond.

Any force that distorts the ability of the interest rate to settle at a level that allows an equilibrium of saving and investment, or of productivity and thrift, at its so-called natural level creates distortions in the economy. These distortions lie at the heart of the Austrian School critique of modern central banks

Similarly, from the perspective of borrowers and spenders, the relevant cost of borrowed funds is, under conventional theory, taken to be the real or inflation-adjusted interest rate. This real rate represents the tangible sacrifice of future purchasing power by the borrower required to service credit. Paying anything less than a 3% interest rate in a 3% inflation environment advantages the borrower. A negative real interest rate insures the transfer of purchasing power from the lender to the borrower. The real burden of borrowing is eroded when the rate of inflation rises above the nominal interest rate on debt. Inflation becomes a tax on the purchasing power of creditors, with the proceeds transferred to borrowers.

THE AUSTRIAN SCHOOL AND THE NATURAL RATE OF INTEREST

In many ways, this conception of real interest rates is aligned with the Austrian School perception of credit as an exchange of present goods for (usually) more future goods. Interest rates identify the intersection of two sets of forces within the economy operating on both the demand and the supply sides of the equation. On the demand side stands thrift or saving, while on the supply side stands productivity or investment.

Thrift, or the time preference of consumption, marks the willingness of producers to exchange presently available goods for future goods. Thrift is synonymous with saving, or the sacrifice of a claim on present goods in exchange for a claim on future goods. Savers or creditors are willing to forego consumption of presently available goods and services in exchange for the expected receipt of a larger quantity of products in the future. Borrowers or deficit spending units prefer to consume or use more products than they currently produce, and are willing to give up claims on their future output (in the monetary form of future interest and principal payments) in order to do so.

Productivity, or generally speaking, the units of output produced per unit of input, marks the ability of an economy to transform presently available materials into future products. In mainstream economics, these engineering opportunities are captured in production functions or production possibility frontiers. Productivity, in turn, is related to investment in a variety of ways. Past investment in plant and equipment (minus physical depreciation) indicates the installed base of capital that influences the productive capacity of a nation, in the sense of Adam Smith's *The Wealth of Nations*. Current investment activity embeds new technology in the production structure of the economy and, therefore, can enhance the productivity. Finally, the act of production requires investment in the materials and

working capital required to complete the final output of goods and services. Investment in tangible capital is quite intimately related to productivity.

Following this approach, the interest rate is the exchange rate that equilibrates desired thrift with the actual productivity available in an economy. Alternatively, the interest rate captures the price that equilibrates saving and investment. Any force that distorts the ability of the interest rate to settle at a level that allows an equilibrium of saving and investment, or of productivity and thrift, at its so-called natural level creates distortions in the economy.

These distortions lie at the heart of the Austrian School critique of modern central banks, since as noted above, modern central banks are in the business of fixing a price, namely the policy rate. These distortions also lie at the heart of the critique of credit money economies developed by Knut Wicksell over a century ago. And in one of those curious twists in the history of economic thought, the current vogue among central bankers is to adopt a neo-Wicksellian view of the economy known as New Consensus Macroeconomics (NCM), of which the Taylor rule used to set policy rates is a crucial element.

While Dr. Richebächer's independent thinking was not always accepted by the acolytes of the Austrian School, his work clearly shared some similar vantage points. For Dr. Richebächer, any force pushing the actual interest rate away from the so-called natural rate would create, along Austrian lines, a distortion between true saving out of income and production flows, and available credit, which provides competing claims on available output. Consequently, imbalances between desired saving and investment tend to arise when the actual interest rate departs from the natural rate, with the likely result of financial and real imbalances, such as sustained periods of overinvestment (and what the Austrians termed "malinvestment") as credit bubbles expand. In a credit money economy, in which money is not an actual product with an intrinsic use value, as it is in a gold or commodity-based currency system, departures of actual interest rates from the so-called natural interest rate are more likely.

In future *Richebächer Letters*, this macrofinancial perspective will be further elucidated, as it was central to the good doctor's unique framework. In addition, we will also explore how Keynes may have pushed beyond these approaches in *The General Theory*. Surfacing the foundation of Dr. Richebächer's analysis, and identifying Keynes' innovations on this analysis in *The Treatise on Money* published before the *The General Theory*, will prove critical to developing a macrofinancial analysis that is relevant to the world in which we actually live. Along these lines, Bernanke's global savings glut explanation of low nominal and real interest rates will be shown to be extremely mistaken. Such misperceptions can wreak havoc — a havoc which both Dr. Richebächer and Lord Keynes, in the respective roles as Cassandras of their time, sought to prevent and avoid.

THE OPACITY OF THE CENTRAL BANK TARGET RATE

The task of most modern central bankers, then, is to set the nominal policy rate with the objective of achieving the real interest rate required to sustain the economy on a noninflationary (or in practice, a low, stable inflation) growth path. Central bankers, therefore, need two relevant pieces of information: *first*, a plausible indicator of future inflation or inflation expectations and, *second*, a correct identification of the level of the real interest rate consistent with the maximum rate of growth that will encourage no further acceleration of inflation.

Surprisingly, in an era when credibility and transparency are held as necessary requirements for effective monetary policy, few central banks explicitly identify the source of the expected inflation signal used in this approach. Indeed, it remains an open question as to whose inflation expectations matter most. While Fed speeches, testimony and meeting transcripts tend to favor the inflation signal from the Treasury Inflation-Protected Securities (TIPS) market, the basis for favoring this version of inflation expectations has never been made clear — nor has the acceptable range for TIPS-based inflation expectations ever been well defined.

Similarly, the real interest rate required to achieve the optimal, noninflationary growth path is rarely made explicit by central banks. Historical averages of real rates are often employed, but these are by no means steady or

stable over time. In fact, former Fed Chairman Alan Greenspan, in a moment of uncharacteristic candor, was caught admitting in the Federal Open Market Committee transcripts that the optimal real, or natural, rate is unknowable except by trial and error. Together with the absence of an explicit measure (and target zone) for inflation expectations, the elusive nature of the optimal real interest rate begs the question of whether central bankers have any way of knowing when they have correctly set the short-run policy rate. Truth be told, central banks appear to be flying by the seat of their pants when setting the nominal policy rate.

What if central banks have not only little idea of the correct real rate to pursue, but also the wrong real interest rate in their sights? Could central bankers be that out to lunch?

A MORE RELEVANT REAL RATE

What if central banks have not only little idea of the correct real rate to pursue, but also the wrong real interest rate in their sights? Could central bankers be that out to lunch?

In a monetary economy, wealth holders seek to maximize the monetary returns from holding or utilizing assets. In doing so, wealth holders are constantly comparing expected nominal returns on various investment opportunities, as well as assessing the risks of holding different assets, including the degree to which various asset class returns move together.

Taking this investment process one step further, sophisticated investors will not hesitate to use leverage to position assets, thereby turbo-charging money returns on assets. Leverage is used to purchase assets when the expected return on assets sufficiently exceeds the cost of borrowing money. Such is the basis of various carry trades in financial markets, especially those placed by hedge funds, which, because of their large size and high turnover, tend to be the marginal buyer or seller in many financial asset markets.

Inflation, at least in the first instance, erodes the purchasing power of all nominal return streams, whether returns take the form of income flows to the investor or creditor, or asset price appreciations enjoyed by the investor. Regardless of whether we are looking at bond coupons, interest payments on loans, dividend payments on equities or rental payments on real estate, escalation of the consumer price level erodes the purchasing power of these money income flows. Similarly, whether it is the repayment of principal on a loan or a bond, or the appreciation of a portfolio of stocks, real estate holdings or even commodity futures, inflation also erodes the purchasing power of these money flows. During an inflationary period, the objective of any sensible investor, then, must be to maximize nominal returns, which is equivalent to maximizing the purchasing power of wealth, or the potential claims on real goods and service of that wealth, since inflation undermines the purchasing power of all money flows.

The only remaining alternative for investors and income receivers is to flee the currency that is experiencing inflation. This requires repositioning assets and income flows into a currency that is not inflating as quickly as the home currency, and recontracting debts and contractually fixed expenses in a currency that is still very inflationary or likely to demonstrate accelerating inflationary tendencies. Such financial re-engineering exercises are fine in theory, but they are difficult in practice (at least not without negotiating the cumbersome demands of multiple citizenship). More likely, capital flight from the more inflationary economies will develop as asset holders seek to preserve the purchasing power of their wealth. Shifts in portfolio preferences away from assets denominated in the inflationary currency will gain momentum, and asset prices in inflationary nations will tend to face selling pressures accordingly.

From a portfolio decision-making perspective, rather than solely a consumer point of view, a wealth holder is never faced with the decision to receive either the yield on a bond (or a loan) or receive the appreciation on a basket of commodities and services like those included in the consumer price index. At best, this is the decision that wholesalers and retailers face when they finance their working capital and inventory positions. Such borrowing

activity is a rather small slice of total borrowing in the economy — for example, the mortgage market clearly swamps this channel of demand for borrowed funds.

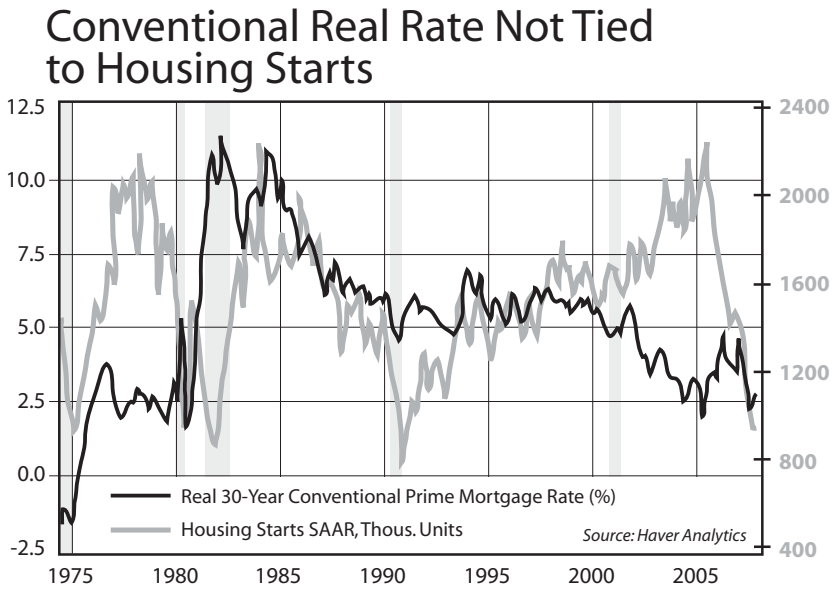
In fact, it is actually impossible to inventory or hold the goods and services in the CPI over time horizons relevant to most investors. Some goods in the CPI are perishable, like fresh food. Similarly, services to consumers cannot be stockpiled — there is no identifiable forward market in haircuts and manicures. Only durable goods that can be held over investment horizons relevant to most investors matter, and most of those durable goods, such as homes, capital equipment and nonresidential construction, not to mention raw materials and commodities, do not directly appear in the CPI.

Rather, the more relevant choice wealth holders face is between investing in default-risk-free bills, notes and bonds (in other words, assets like U.S. Treasuries) with a relatively stable monetary value and investing in riskier durable assets, like real estate, or a financial claim on a durable asset, like equities. Similarly, from the perspective of an investor using leverage in a portfolio, or a consumer purchasing a durable asset like a house, the relevant real interest rate is the cost of carry: that is, the cost of borrowing money minus the expected rate of appreciation of the durable asset, not the expected rate of appreciation of consumer goods and services, which is called inflation.

For example, if mortgage rates are 5% and the anticipated appreciation of residential real estate is 10%, then the relevant real interest rate (or the cost of carry, if you prefer) is –5%. Similarly, if margin loan rates are 4%, and expected equity returns are 12%, the cost of borrowing money to own stocks on margin is –8%. In other words, it is the relative money rates of return on various asset classes that are most relevant to decision making of investors and borrowers. The conventional real rate — a nominal interest rate minus inflation or expected inflation — may, indeed, be the wrong relative rate of return to focus upon.

WILL THE REAL "REAL" RATE PLEASE STAND UP?

Which measure of the real interest rate — the inflation-adjusted interest rate, or the portfolio relevant rate — has proven more of an influence on one of the most interest rate-sensitive categories of GDP, namely housing? Crudely, the conventional real interest rate for the housing market may be defined as the difference between the 30-year prime mortgage rate and the year-over-year inflation rate using the personal consumption expenditures (PCE) deflator favored by the Fed. Also overly simplistically, the portfolio-relevant real rate may be defined as the difference between the same mortgage rate and the measure of new home price appreciation taken from the GDP chain-type price index for the residential investment category. On either definition, the level of housing starts should tend to vary inversely with real rates, and the correlation should be most negative with the real rate that more accurately captures reality. In this fashion, it is possible to identify the real real interest rate.

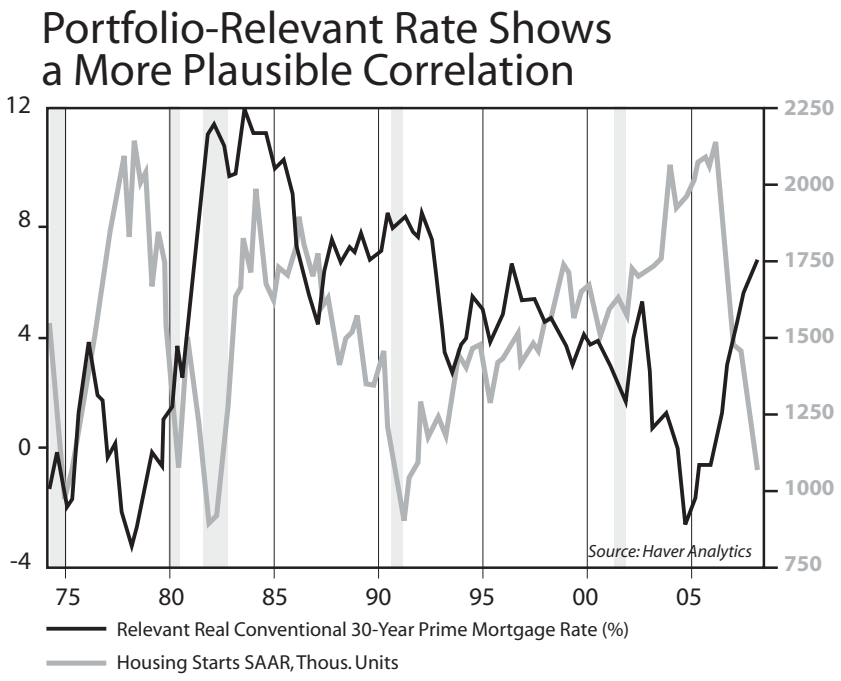


As displayed in the chart at right, the correlation between conventionally defined real interest rates and housing starts is unclear at best, and even mildly positive for many stretches. While the 1980–2 spike in conventional real rates was associated with a collapse in housing starts, so too were the subsequent six–seven years of declining real rates associated with a falling level of housing starts — just the opposite of what theory

and conventional wisdom would suggest. No conventional real rate spike was associated with the 1990–1 drop in housing starts (did the Fed really kill that expansion, then, as the story is commonly told?), nor was the unprecedented long rise in housing starts from 1991–2005 associated with a consistent and unprecedented decline in the conventional real rate. While the conventional real rate did drop steadily from 2002 through the middle of 2005, the subsequent reversal was hardly large enough to warrant the accompanying collapse in housing starts. (Again, did the Fed really murder the recent expansion, or is there a wider range of suspects worth rounding up on this one, including housing speculators and fraudulent lending practices?) Clearly, the conventional real mortgage rate is not a very powerful influence on what is unquestionably one of the most interest rate-sensitive categories of economic activity, namely housing starts.

In contrast, the portfolio-relevant real rate, while far from perfect, displays a much more consistent inverse relationship with the level of housing starts. The drop in the relevant real rate from 2002–5 was on par with that observed in the late '70s, and the response of housing starts was remarkably similar in both instances. Likewise, the surge in the relevant real rate from 2005–8 is about on par with that observed from 1978–81, and once again, housing starts have dropped to nearly the same level. The portfolio-relevant real rate, which approximates the cost of carry, also appears to be more relevant to the world we actually inhabit.

To summarize, when it comes to tracking influences on housing activity, the conventional real rate favored by central bankers, economists and some professional investors is not terribly useful. Housing starts clearly dance to the tune of the portfolio-relevant real rate, not the conventional real rate. Policymakers and investors who believe real interest rates have been brought down quickly to very stimulative levels may be quite wrong. With home prices deflating, the relevant real interest rate for housing has, in fact, soared, rather than fallen.

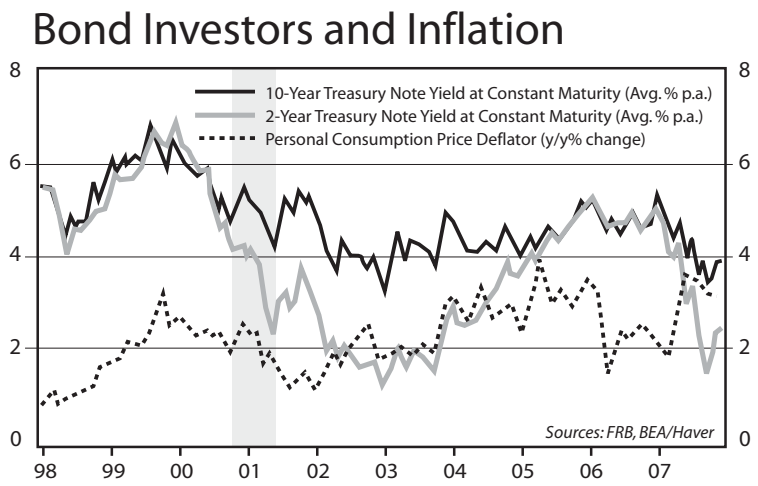


THE WRONG REAL RATE, REDUX

As discussed earlier, in conventional approaches, rising inflation, or higher inflation expectations, forces wealth holders to demand a higher yield on loans, bonds and other fixed-income investments. In a 3% inflation environment — actual or anticipated — any bondholder demanding less than a 3% yield is automatically signing up for an erosion of the purchasing power of the principal invested in the loan or bond. Rising inflation should require rational investors to demand a higher nominal interest rate on new loans and new bond purchases.

The fact of the matter is that two-year U.S. Treasury (UST) yields peaked nearly two years ago, at 5.2%, despite the fact that headline PCE inflation has accelerated since then. Surprisingly, the bulk of the two-year UST yield drop occurred precisely during the sharpest escalation of headline PCE inflation, as displayed below. Ten-year UST yields also peaked two years ago, at about the same level as the two-year UST yield. The 10-year UST yield also fell most dramatically during the sharpest acceleration of the headline PCE inflation measure. Something appears distinctly wrong with the conventional story about real interest rates.

Note that the drop in both yields since late March is a relatively small retracement of the rally since mid-2007. If bond investors are the most damaged by escalating inflation, and so demand higher nominal interest rates as compensation, why have Treasury bond yields fallen in the face of escalating inflation? Is it conceivable that bond investors have concluded supply-side cost shocks are sapping U.S. consumer and producer purchasing power, so these supply-side cost shocks are enhancing recessionary tendencies, which in turn tend to favor bond returns over equity returns? Could changing risk and return perceptions have shifted some investor portfolio preferences away from riskier asset classes like equities, mortgage bonds, corporate bonds, leveraged loans and real estate and toward more stable asset classes like Treasury bonds?

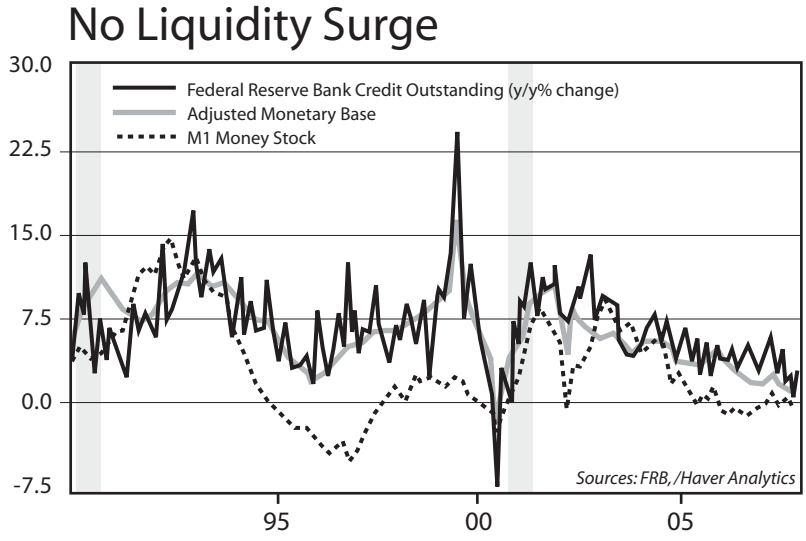


IS THE FED FLOODING THE SYSTEM WITH LIQUIDITY?

Query your average professional investor about the Fed's recent behavior, and the nearly resounding claim will be made that Chairman Bernanke and crew have been flooding the system with liquidity faster than a broken levee in Iowa. As mentioned above, by targeting a nominal interest rate — the fed funds rate — the Fed has abrogated control over the money supply, just as any price setter loses control over the quantity sold.

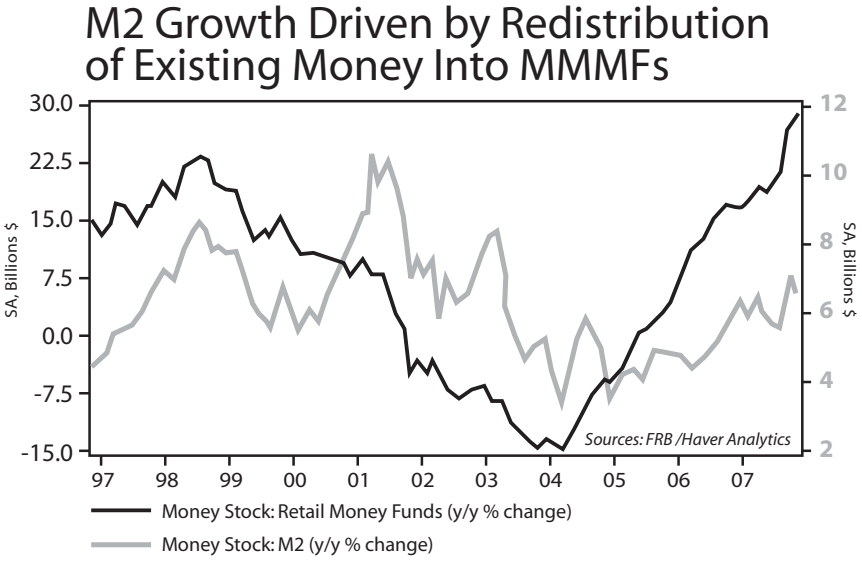
Nevertheless, if a reasonably accurate judgment is to be made about the Fed and liquidity provision, perhaps it is best to go straight to those monetary aggregates that are most susceptible to Fed influence. In order of relative influence, the Fed undoubtedly has the most control over the size of its own balance sheet, measured as Federal Reserve credit outstanding in the nearby chart. Next in line is the sum of currency and reserves, called the monetary base, here adjusted for changes in reserve requirements. Finally, M1, which includes a variety of liabilities held by depository institutions, along with currency and reserves, is perhaps the measure of traditional money supply aggregates most likely to show the fingerprints of the Fed.

In all three cases, there is no surge of liquidity to be found. As the Fed has injected liquidity through various channels, including the unprecedented Bear Stearns deal, it has been selling down its portfolio of Treasury securities. The sale of a Treasury bill, note, or bond by the Fed to the private sector removes liquidity from the private sector. Net-net, the Fed has been engaged in a major swap operation with the private sector, selling its more liquid holdings in order to assume the riskier positions previously held by private financial institutions.



However, various sell siders who occasionally employ monetary analysis (at least on occasions when money supply growth can be used to tell a bullish equity story) are now highlighting the recent upward explosion of M2 or MZM growth as an indisputable signal that the Fed is

flooding the system with liquidity. Accordingly, in the face of surging liquidity, some sell-side investment strategists have persuaded professional investors that a recession is either out of the question, a low-odds outcome or likely to be at worst short and relatively shallow.

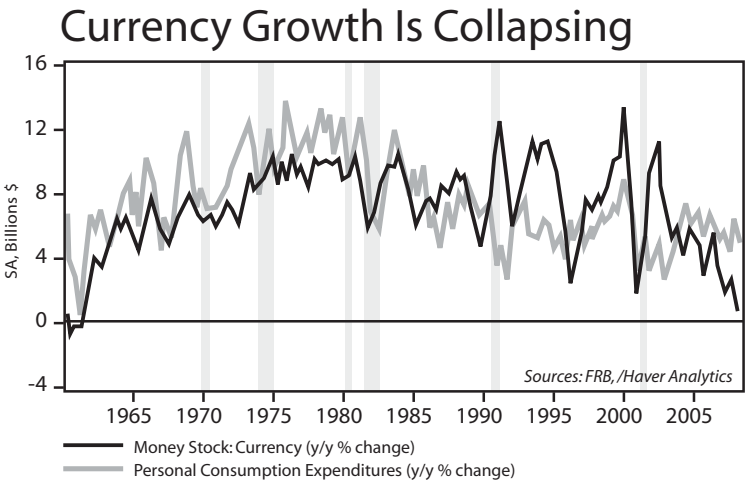


Upon closer inspection, the explosion of M2 and MZM has everything to do with the shift of existing liquid assets by wealth holders (not newly created money, or means of settlement) out of collapsing categories, like asset-backed commercial paper (ABCP), which are not tracked in the current money supply aggregates, and into liquid asset categories that are included in money supply measures, like institutional and retail money market mutual funds. Unwittingly, these sell-side strategists are behaving like air traffic controllers who believe if a plane that does not appear on their radar screen, it does not exist.

The challenge for central banks has always been to keep the money supply measures relevant in a world where financial innovation is constantly deriving new forms of holding liquid assets. ABCP is one such form of financial innovation that holds liquid assets, but clearly, like a money market mutual fund (MMMF), neither structure involves the creation of new money. A buyer of either form of liquid asset must transfer existing means of settlement, usually a check, to the seller. Existing money is simply redistributed, not newly created.

Finally, in the more monetarist view of economics, an excess of money is generally believed to be relieved by an attempt by wealth holders to spend it away. Digging through the details of the money stock data, the component of the various money supply aggregates that most highly correlates with consumer spending is, as you might expect, the currency component. Currency growth is presently plumbing depths last seen nearly half a century ago. No doubt secular (and perhaps cyclical) elements have reduced the relevance of currency holdings for consumer spending, but the component of money supply measures most clearly associated with consumer spending is hardly showing the presence of excess liquidity conditions.

Though checks certainly can be written against MMMFs, they tend to be used primarily for portfolio balance purposes — specifically reflecting investor liquidity preferences in their portfolios of wealth, which, of course, refers to claims on the stock of existing assets — and not for settling transactions in goods and services markets. Accordingly, a MMMF surge that drives M2 and MZM (or any other broad money measure, for that matter) is not directly relevant to prospects for U.S. economic activity. It is potential buying power, but most likely, it is stored buying power for financial assets (once risk perceptions and risk appetites improve), not real goods and services.



Anyone who takes the time to observe the

historically very low correlation between consumer spending and MMMFs will realize these cash holdings are much more important to financial portfolio decisions than they are to U.S. economic activity. Currency is used for consumer spending, and money market funds are used to fulfill liquidity preferences in existing wealth portfolios.

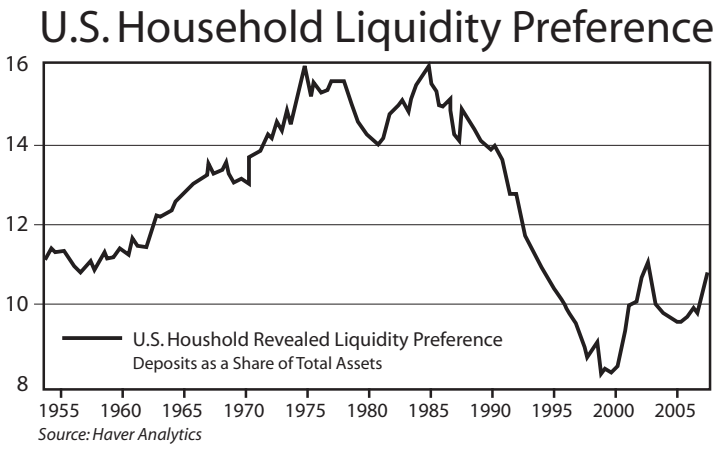
A lifetime ago, in the *The Treatise on Money*, while elaborating on the monetarist approach that had guided much of his earlier contributions, Keynes distinguished between what he called the financial circulation and the industrial circulation of money. The idea here, albeit a very simple one, was that money not only circulated in product markets in exchange for goods and services, but it also circulated in the market for claims on existing assets, namely the financial markets.

This distinction has been lost to subsequent generations in the crude monetarist formulation of the equation of exchange as MV=PQ (that is, M, money supply, times V, the velocity or rate of circulation of money, equals P, the aggregate price index, times Q, aggregate output, where PQ is equal to nominal GDP). This is something of a bastardization of Irving Fisher's originally suggested and more comprehensive variant, MV=PT, where T includes all transactions, including financial, and not just those related to final product markets in goods and services. The failure to realize that money is demanded to settle not only product market but also asset market transactions has led to all kinds of handicaps and distortions for mainstream monetarist analysis.

IS IT ALL ABOUT SWINGS IN LIQUIDITY OR SHIFTS IN LIQUIDITY PREFERENCES?

On the generous assumption that actual positions revealed in existing portfolios tell us something about desired portfolio balances and asset mixes, households have revealed a rising preference for liquidity in their portfolios over the past year and a half by net selling down equity exposures while building up liquid asset holdings. When Wall Street applauds the appearance of resurgent liquidity growth ostensibly being supplied to the financial markets by the Fed, it is best not to forget to look at the demand side of the equation. One can never evaluate the conditions of excess liquidity by observing only one blade of the scissors of supply and demand.

As Keynes put it long ago, if investor liquidity preferences increase faster than liquidity is provided, then the price of less-liquid assets (stocks, bonds, real estate) must adjust downward until the desired portfolio proportions are achieved. At last glance, less-liquid asset classes, like real estate, equities and corporate bonds, were turning in subpar performances year to date.



In future letters, Keynes' liquidity theory of asset price determination, a perspective first sketched out in crude form (but not applied consistently) in *A Treatise on Money*, and later developed more fully in *The General Theory*, will be explored in more depth. For now, however, it is best to simply keep in mind that liquidity is only half the story, and shifts in the liquidity preferences of wealth holders and financial institutions can just as easily wreak havoc with financial asset prices and, eventually, economic activity.

SUMMARY AND CONCLUSIONS

Like the Austrian School, Irving Fisher, John Maynard Keynes and other brilliant contributors to macroeconomics during the first half of the 20th century, Dr. Richebächer was no stranger to the importance of money and credit conditions to macrofinancial outcomes. Much of this knowledge had been lost, buried or distorted over subsequent decades, to the point that most contemporary central bankers pay little attention to monetary

aggregates as they target a short-term nominal policy rate in order to achieve an optimal, but for the most part undefined, real interest rate target.

Upon examination, it appears the real rate concept favored by most central bankers and mainstream economists misses the mark. For wealth holders, investors and prospective deficit-spending agents in the private economy, the real rate that matters is not the difference between the cost of borrowing (or, from the lender's perspective, the return to lending) and the actual or expected inflation rate. The real rate most relevant to private decision makers is the difference between the cost of borrowing and the expected appreciation of assets that can be controlled with those borrowed funds.

While the real fed funds rate is now below zero, and real conventional mortgage rates are the lowest they have been since the late '70s, the real interest rate for housing that is relevant for portfolio decisions — the difference between the nominal mortgage rate and the expected appreciation of home prices — has soared as house price deflation has set in.

Testing the conventional real rate against the portfolio-relevant real rate, with respect to their influence on one of the most interest rate-sensitive segments of economic activity, namely housing, the former was found to fall woefully short. A further investigation of variations in the two- and 10-year UST yields relative to recent inflation pressures also finds conventional views of the real rate somewhat lacking. Investors and policymakers may be seriously misleading themselves by focusing on the wrong real rate.

Another source of investor confusion has to do with the perception that the Fed has been flooding the financial system and the economy with excess liquidity. A review of the monetary aggregates most easily influenced by the Fed indicates nothing could be further from the truth.

During its more aggressive lender-of-last-resort operations in recent months, the Fed has been offsetting liquidity injections with sales of U.S. Treasury debt from its own portfolio. In this sense, Fed activity has been more like a swap of more liquid securities for riskier assets held by various financial institutions. Investors who now believe the Fed needs to mop up excess liquidity may be positioned the wrong way around.

Finally, investors focused solely on the provision of liquidity are missing at least half the picture. Asset prices are influenced not only by variations in the amount of liquidity in the financial system, but also by shifts in investor liquidity preferences. The U.S. household sector in is the midst of its second major surge in liquidity preferences this decade, the first one occurring in the aftermath of the bursting of the tech and telecom equity bubble. When investors attempt to raise the proportion of their portfolios devoted to liquid assets with relatively stable money values, prices of less-liquid assets can suffer unless the banking system is able to create more liquid assets by sufficiently expanding its balance sheet. By ignoring persistent shifts in liquidity preferences and speculating on incorrect assessments of liquidity provision by the Fed, investors leave themselves open to being blindsided.

Misconceptions about money, credit, liquidity, interest rates and other essential elements of any monetary economy are rife in the world of central bankers, professional investors and mainstream economists. Dr. Richebächer was well aware of how costly these misconceptions could be — and not just to the direct holders of these views, but to the health and progress of society as a whole. Unraveling these misconceptions, and where possible correcting them, was a lifelong endeavor that Dr. Richebächer pursued with great passion.

Given the still-fragile state of financial and economic conditions in the wake of the housing bust, and the related dissolution of key elements of the new financial architecture, which now even Fed Chairman Bernanke cannot ignore, we can think of no better time to deepen and extend Dr. Richebächer's earnest inquiry into these crucial questions. On the analysis presented above, it is unlikely to prove a lucrative time for investors to look through the valley, and it is equally doubtful that now is the best time for the Fed to embark on another sequence of fed funds rate hikes.